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REMARKS

Claims 1-7, 10-19, 69-73 and 75-88 are pending in this application. Claims 69, 71, 72 and 75 have been amended, Claim 88 has been added, and Claim 74 has been cancelled. No new matter has been added.

In the Final Office Action dated August 29, 2003, Claims 1-7 and 10-19 were allowed. Claims 71, 72 and 75 were objected to as being dependent on a rejected base claim, but the Examiner stated that these claims would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. Claims 69, 70, 73, 74 and 76-87 were rejected under 35 U.S.C. §103 as being obvious over U.S. 5,229,230 to Kamon ("Kamon") in view of U.S. 5,316,896 to Fukuda *et al.* ("Fukuda").

In the present amendment, Applicant has rewritten Claims 71, 72 and 75 in independent form to include all limitations of base Claim 69. New Claim 88, which depends from previously-allowable Claim 75, has been added to alternatively characterize the invention. Accordingly, it is believed that these claims are allowable.

In addition, Claim 69 has been amended to recite a method of forming a phase-shift mask which comprises determining a proposed pattern layout for a phase-shift mask comprising a primary feature and one or more assist features; analyzing, in a frequency domain, the phase and amplitude of a diffraction pattern of the proposed mask pattern via a Fourier transform; and based upon the analysis step, adjusting a physical characteristic of the primary feature or an assist feature, and repeating the analyzing and adjusting steps until a final mask pattern is determined in which opposing electric fields generated at the primary feature and at the one or more assist features balance to "substantially eliminate the electric field at the zero frequency of the primary feature, thereby improving tolerance to imaging system focal variation during a final image formation."

It is believed that with the entry of the present Amendment, independent Claim 69 and dependent Claims 70, 73 and 76-87 are now allowable. As suggested by the Examiner, Applicant has removed the term "desired amount of zero-order light" from Claim 69. Applicant has furthermore clarified that the present method involves Fourier analysis of a proposed mask pattern layout, and, based upon the analysis, modifying the assist feature(s) to eliminate or null out the electric field at or near the zero frequency. This method is applicable regardless of the particular phase shift of the mask.

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It is believed that independent Claim 69 is allowable over the Kamon and Fukuda references, since these references, considered either independently or in combination, fail to teach or suggest a method that includes analyzing, in a frequency domain, the phase and amplitude of a diffraction pattern of a proposed mask pattern via a Fourier transform, and then adjusting the physical characteristics of the primary and assist features until the electric fields generated at the primary feature and at the one or more assist features balance to substantially eliminate the electric field at the zero frequency at the primary feature. Accordingly, it is submitted that independent Claim 69 and dependent Claims 70, 73 and 76-87 are allowable.

Finally, in a telephone conversation with the undersigned attorney, the Examiner identified U.S. 6,605,396 to Schroeder *et al.* as potentially relevant to the subject matter of the present invention. After reviewing this patent, the undersigned does not believe that the Schroeder patent is prior art against the present claims, since the present application claims a priority date of April 27, 2000, while the Schroeder patent was filed on August 6, 2001.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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Dated:

1/21/04